

Sheet

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Form PTO-1449 (Modified) (Use several sheets if necessary)

of

2

	COMPLETE IF KNO	WN
Application Number	10/080,915	^
Confirmation Number	7799	7/2
Filing Date	February 22, 2002	CA
First Named Inventor	Randy Harris	Ur. 11/2
Group Art Unit	1742	7 7
Examiner Name	Donald R. Valentine	C - <002
Attorney Docket No.	29195-8173US1	70

			Attorney Docket No.	29195-8173US1	
			U.S. PATENT DOCUMENTS		700
		U.S. Patent or Application	U.S. PATENT DOCUMENTS	Date of Publication or	
Examiner Initials*	Cite No.	NUMBER (if known)		Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
MW		US2001/0032788	Woodruff et al.	10/25/01	The second secon
MM		US2001/0043856	Woodruff et al.	11/22/01	
MW		US2002/0008037	Wilson et al.	01/24/02	
MW		US2002/0032499	Wilson et al.	03/14/02	
MM		US2002/0096508	Weaver et al.	07/25/02	
NW		US2002/0102156	Woodruff et al.	08/01/02	
WH		US2002/0125141	Wilson et al.	09/12/02	
HW		US2002/0139678	Wilson et al.	10/03/02	
WH		US2003/0127337	Hanson et al.	07/10/03	
MW		US2003/0141185	Wilson et al.	07/31/03	
MM		US2003/0159277	Harris et al.	08/28/03	
HW.		US2003/0159921	Harris et al.	08/28/03	
HW		5,372,293	Corlay et al.	12/13/94	
HW		5,509,772	Doche	04/23/96	
HW		6,080,291	Woodruff et al.	06/27/00	
HW		6,080,691	Lindsay et al.	06/27/00	
HW		6,091,498	Hanson et al.	07/18/00	
NW		6,228,232	Woodruff et al.	05/08/01	
HW		6,270,647	Graham et al.	08/07/01	
NW		6,280,583	Woodruff et al.	08/28/01	
MW		6,288,561	Leedy	09/11/01	
MM		6,303,010	Woodruff et al.	10/16/01	
HW		6,309,520	Woodruff et al.	10/30/01	
NW		6,309,524	Woodruff et al.	10/30/01	
HW.		6,471,913	Weaver et al.	10/29/02	
MW		6,569,297	Wilson et al.	05/27/03	

EXAMINER

DATE CONSIDERED

*EXAMINER: Initial is reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application(s).



INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Form PTO-1449 (Modified) (Use several sheets if necessary)

of

2

2

COMPLETE IF KNOWN						
Application Number	10/080,915	^				
Confirmation Number	7799	7				
Filing Date	February 22, 2002	0 0				
First Named Inventor	Randy Harris	· 60 ()				
Group Art Unit	1742	2 1/2				
Examiner Name	Donald R. Valentine	C, 200				
Attorney Docket No.	29195-8173US1	12 13				

	`	-		- 0,		Attorney Docket No.	29195-8173US1		
								90	
						J.S. PATENT DOCUMENTS			
Examiner Initials*	Ci	te		Kind Coo (if know		Name of Patentee or Inventor of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Line Where Relevant Passage Relevant Figures Appe	es o
					FOR	REIGN PATENT DOCUMENTS			
	Γ-	For	airo Data-t	A H H		LIGHTATENT BOCOMENTS	Date of		<u> </u>
Examiner Initials*	Cite No.	Office	NUMBER		n Code lown)	Name of Patentee or Applicant of Cited Document	Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
bw		WO	99/477	731		Semitool, Inc.	09/23/99		Γ
NW		WO	99/460	065		Semitool, Inc.	09/16/99		T
HW,		wo	00/618	337		Semitool, Inc.	01/20/00		H
HW		wo	00/026	575		Semitool, Inc.	10/19/00		┢
HW		wo	00/614	198		Semitool, Inc.	10/19/00		┢
SW		wo	02/048	386		Semitool, Inc.	01/17/02		\vdash
			OTH	ER PRIOF	AR	-NON PATENT LITERATURE D	OCUMENTS		
Examiner Initials*	Cite No.	(b	Indude n	ame of the a	uthor (in CAPITAL LETTERS), title of the article symposium, catalog, etc.), date, page(s), and/or country where published.	(when appropriate)	title of the Item er(s), publisher, city	Т
	-	<u>.</u>							

EXAMINER				
EXAMINER	$11 \wedge 11$		DATE CONSIDERED	,
	Jany Mill	. 111	7710	100
	Sum Divel	,XV	0/1//	
		// 🔻		

*EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application(s).

INFORMATION DISCLOSURED STATEMENT BY APPLICANT Form PTO-1449 (Modified) NR (Use several sheets if necessary)

Sheet

COMPLETE IF KNOWN					
Application Number	10/080,915				
Confirmation Number	7799				
Filing Date	February 22, 2002				
First Named Inventor	Randy Hams				
Group Art Unit	1742				
Examiner Name	Donald R. Valentine				
Attorney Docket No.	29195-8173US1				

		U.S. PATENT DOCUMENTS		
Cite No.	U.S. Patent or Application Kind Code NUMBER (if known)	Name of Patentee or Inventor of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	09/679,928	Woodruff et al.	10/05/00	
	60/129,055	McHugh	04/13/99	
	60/143,769	McHugh	07/12/99	
	60/182,160	McHugh et al.	02/14/00	
	60/206,663	Wilson et al.	05/24/00	
	1,526,644	Phinney	02/17/25	
	1,881,713	Laukel	10/11/32	
	2,256,274	Boedecker et al.	09/16/41	
	4,046,105	Gomez	09/06/77	
	4,304,641	Grandia et al.	12/08/81	
	4,451,197	Lange	05/29/84	
	4,495,453	Inaba et al.	01/22/85	7.7.
	4,566,847	Maeda et al.	01/28/86	
	4,568,234	Lee et al.	02/04/86	
	4,634,503	Nogavich	01/06/87	
	4,639,028	Olson	01/27/87	
	4,648,944	George et al.	03/10/87	
	4,670,126	Messer et al.	06/02/87	
	4,760,671	Ward	08/02/88	
	4,761,214	Hinman	08/02/88	
	4,770,590	Hughes et al.	09/13/88	
	4,828,654	Reed	05/09/89	
	4,902,398	Homstad	02/20/90	<u> </u>
	4,944,650	Masumoto	07/31/90	
	4,949,671	Davis et al.	08/21/90	
	4,988,533	Freeman et al.	01/29/91	
		Cite NO. NUMBER (if known) 09/679,928 60/129,055 60/143,769 60/182,160 60/206,663 1,526,644 1,881,713 2,256,274 4,046,105 4,304,641 4,451,197 4,495,453 4,566,847 4,568,234 4,634,503 4,639,028 4,648,944 4,670,126 4,760,671 4,761,214 4,770,590 4,828,654 4,902,398 4,944,650 4,949,671	Cite No. Kind Code (If known) Name of Patentee or Inventor of Cited Document O9/679,928 Woodruff et al. 60/129,055 McHugh 60/143,769 McHugh 60/182,160 McHugh et al. 60/206,663 Wilson et al. 1,526,644 Phinney 1,881,713 Laukel 2,256,274 Boedecker et al. 4,046,105 Gomez 4,304,641 Grandia et al. 4,451,197 Lange 4,495,453 Inaba et al. 4,568,234 Lee et al. 4,634,503 Nogavich 4,639,028 Olson 4,648,944 George et al. 4,760,671 Ward 4,761,214 Hinman 4,770,590 Hughes et al. 4,828,654 Reed 4,902,398 Homstad 4,944,650 Masumoto 4,949,671 Davis et al.	U.S. Patent or Application Name of Patentee or Inventor of Cited Document Date of Publication or Publication or Filling Date of Cited Document 09/679,928 Woodruff et al. 10/05/00 60/129,055 McHugh 04/13/99 60/143,769 McHugh 07/12/99 60/182,160 McHugh et al. 02/14/00 60/206,663 Wilson et al. 05/24/00 1,526,644 Phinney 02/17/25 1,881,713 Laukel 10/11/32 2,256,274 Boedecker et al. 09/16/41 4,046,105 Gomez 09/06/77 4,304,641 Grandia et al. 12/08/81 4,451,197 Lange 05/29/84 4,456,843 Inaba et al. 01/22/85 4,568,234 Lee et al. 02/04/86 4,634,503 Nogavich 01/06/87 4,648,944 George et al. 03/10/87 4,670,126 Messer et al. 06/02/87 4,770,590 Hughes et al. 09/13/88 4,828,654 Reed 05/09/89

EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application(s).

COMPLETE IF KNOWN Application Number 10/080,915 INFORMATION DISCLOSURÉ Confirmation Number 7799 STATEMENT BY APPLICANT Filing Date February 22, 2002 Form PTO-1449 (Modified) (Use several sheets if necessary) (Use several sheets if necessary) Form PTO-1449 (Modified) First Named Inventor Randy Harris **Group Art Unit** 1742 Examiner Name Donald R. Valentine 2 of 5 Sheet 29195-8173US1 Attorney Docket No.

				U.S. PATENT DOCUMENTS		
Examiner Initials*	Cite No.		ication ind Code if known)	Name of Patentee or Inventor of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
BW		5,000,827		Schuster et al.	03/19/91	
HW		5,061,144		Akimoto et al.	10/29/91	·
MW		5,064,337		Asakawa et al.	11/12/91	
MW		5,135,636		Yee et al.	08/04/92	
BW		5,138,973		Davis et al.	08/18/92	
MW		5,156,174		Thompson et al.	10/20/92	
NW		5,156,730		Bhatt et al.	10/20/92	
ML		5,178,512		Skrobak	01/12/93	
JW		5,217,586		Datta et al.	06/08/93	
HW		5,222,310		Thompson et al.	06/29/93	
HW		5,227,041		Brogden et al.	07/13/93	
HW		5,232,328		Owczarz et al.	08/03/93	
AM		5,256,274		Poris	10/26/93	
HW.		.5,314,294		Taniguchi et al.	05/24/94	
MW		5,344,491		Katou	09/06/94	
HW		5,368,711	1	Poris	11/29/94	
HW		5,376,176		Kuriyama	12/27/94	
NW.		5,377,708		Bergman et al.	01/03/95	
HW		5,378,145		Ono et al.	01/03/95	
NW		5,460,478		Akimoto et al.	10/24/95	
HW		5,544,421		Thompson et al.	08/13/96	·
HW		5,639,206		Oda et al.	06/17/97	
700		5,670,034		Lowery	09/23/97	
HW		5,681,392		Swain	10/28/97	
HW		5,684,713		Asada et al.	11/04/97	
HW		5,700,127		Harada et al.	12/23/97	

Harry S. Will st.

DATE CONSIDERED

*EXAMINER: Initial Preference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application(s).

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Form PTO-1449 (Modified) (Use several sheets if necessary)

3

Sheet

of

liew		COMPLETE IF KNOWN	
QE JOSS	Application Number	10/080,915	
Q A	Confirmation Number	7799	
o 🔊	Filing Date	February 22, 2002	
\$	हिंगst Named Inventor	Randy Harris	
` `	Group Art Unit	1742	
PATENTS	Examiner Name	Donald R. Valentine	
5	Attorney Docket No.	29195-8173US1	

	P.			U.S. PATENT DOCUMENTS		
Examiner Jnjtjals*	Cite No.		tion d Code	Name of Patentee or Inventor of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
AW	710.	5,711,646		Ueda et al.	01/27/98	7,
[5,723,028		Poris	03/03/98	
		5,731,678		Zila et al.	03/24/98	
		5,746,565		Tepolt	05/05/98	
		5,754,842		Minagawa	05/19/98	
		5,759,006		Miyamoto et al.	06/02/98	
		5,765,444		Bacchi et al.	06/16/98	
		5,765,889		Nam et al.	06/16/98	
		5,785,826		Greenspan	07/28/98	
		5,980,706		Bleck et al.	11/09/99	
		5,985,126		Bleck et al.	11/16/99	
		5,989,397		Laube et al.	11/23/99	
		5,999,886		Martin et al.	12/07/99	
		6,004,828		Hanson	12/21/99	
		6,027,631		Broadbent	02/22/00	
		6,028,986		Song	02/22/00	
M		6,074,544		Reid et al.	06/13/00	
AM		6,090,260		Inoue et al.	07/18/00	
MA		6,110,346		Reid et al.	08/29/00	v .
HW.		6,151,532		Barone et al.	11/21/00	
HW		6,156,167		Patton et al.	12/05/00	·
NV	ži.	6,159,354		Contolini et al.	12/12/00	
NW		6,162,344		Reid et al.	12/19/00	
AW		6,162,488		Gevelber et al.	12/19/00	·
HW		6,168,695		Woodruff et al.	01/02/01	
HW		6,179,983		Reid et al.	01/30/01	

EXAMINER Jany S. Will # 3/17/05

*EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application(s).

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Form PTO-1449 (Modified)
(Use several sheets if necessary)

of

4

Sheet



	COMPLETE IF KNOWN	
Application Number	10/080,915	
Confirmation Number	7799	
र्⊊iling Date	February 22, 2002	
First Named Inventor	Randy Harris	
Group Art Unit	1742	
Examiner Name	Donald R. Valentine	
Attorney Docket No.	29195-8173US1	

						U.S. PATENT DOCUMENTS			
Examiner Initials*	Ci			6. Patent or Applicati Kind (BER (if kn	Code	Name of Patentee or Inventor of Cited Document	Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines Where Relevant Passage Relevant Figures Appe	s or
DW		6	,19	3,859		Contolini et al.	02/27/01		
MH		6	,19	99,301		Wallace	03/13/01		
AW		6	,23	34,738		Kimata et al.	05/22/01	·	
MW		6	,32	2,677		Duncan Woodruff et al	11/27/01		
HW		6	,39	1,166		Wang	05/21/02		
					F	OREIGN PATENT DOCUMENTS	•		
Examiner Initials*	Cite No.	Offic			ntion nd Co		Date of Publication or Filing Date of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
pW		WC)	00/02808		Semitool, Inc.	01/20/00		
		WC	K	00/61498	-	Semitoel, Inc.	10/19/00		
		WC		-00/61837-		Semitool, Inc.	10/19/00		
DW.	·	WC)	01/90434		Semitool, Inc.	11/29/01		
WG		WC)	02/097165		Semitool, Inc.	12/05/02		
DW		WC)	02/099165		Semitool, Inc.	12/12/02		
						RT-NON PATENT LITERATURE D			
Examiner Initials*	Cite No.		(b	Include name of th ook, magazine, journ	e auth al, ser	or (in CAPITAL LETTERS), title of the article ial, symposium, catalog, etc.), date, page(s), and/or country where published.	(when appropriate) volume issue numb	, title of the item per(s), publisher, city	т
Am		Pla On	LEE, TIEN-YU TOM et al., "Application of a CFD Tool in Designing a Fountain Plating Cell for Uniform Bump Plating of Semiconductor Wafers," IEEE Transactions On Components, Packaging and Manufacturing Technology – Part B, February 1996, pp 131-137, Vol 19, No. 1, IEEE						
HW						t partnership of process excell rm," (1996), pp 1-12, Semitool		oduction control in	

EXAMINER //	DATE CONSIDERED
Hany D. Will. At.	3/17/05
*EXAMINER: Initial if reference considered, whether or not criteria is in confor	mance with MPEP 609. Draw line through citation if not in conformance and not
considered. Include copy of this form with next communication	to application(s).

Sheet

INFORMATION STATEMENT I	BY APPLICA	NT	OE	JO	· ·
Form PTO-16 Use several sho	449 (Modified eets if necess	100	`,) ``@`	e the	~.
5	of		100	5	
		$\overline{}$	Δ	4:	`

COMPLETE IF KNOWN				
Application Number	10/080,915			
Confirmation Number	7799			
Filing Date	February 22, 2002			
First Named Inventor	Randy Harris			
Group Art Unit	1742			
Examiner Name	Donald R. Valentine			
Attorney Docket No.	29195-8173US1			

		OTHER PRIOR ART-NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume issue number(s), publisher, city and/or country where published.	т
M		RITTER, G., et al., "Two-And Three-Dimensional Numerical Modeling of Copper Electroplating for Advanced ULSI Metallization," June 1999, 13 pgs, E-MRS Conference Symposium M. Basic Models to Enhance Reliability, Strasbourg, France	

EXAMINER DATE CONSIDERED

Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to application(s). *EXAMINER: